

**METHOD FOR FABRICATING COMPLEMENTARY  
METAL OXIDE SEMICONDUCTOR (CMOS) DEVICES  
ON A MIXED BULK AND SILICON-ON-INSULATOR  
(SOI) SUBSTRATE**

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**ABSTRACT OF THE DISCLOSURE**

A method of forming a semiconductor substrate (and the resulting structure), includes etching a groove into a bulk silicon substrate, forming a dielectric in the groove and planarizing the silicon substrate to form at least one patterned dielectric island in the silicon substrate, forming an amorphous silicon (or SiGe) layer on exposed portions of the silicon substrate and the at least one dielectric island, crystallizing the amorphous silicon (or SiGe) layer using the exposed silicon substrate as a seed, the silicon substrate having direct contact with the formed silicon layer serving as a crystal growth seeding for the crystallization process, and converting the silicon (or SiGe) layer to crystallized silicon, and performing a shallow trench isolation (STI) process, to form oxide isolations between devices.